

**CALIFORNIA HIGH-SPEED RAIL AUTHORITY
DUTY STATEMENT**

PARF # 46-8-085

CLASSIFICATION TITLE Supervising Transportation Engineer	OFFICE/BRANCH Program Delivery/Engineering- Construction/Engineering	LOCATION Sacramento
WORKING TITLE Engineering Manager	POSITION NUMBER 311-001-3155-012	EFFECTIVE 08/01/2017

GENERAL STATEMENT:

Under the direction of the California High Speed Rail Authority's Director of Structures, the Engineering Manager provides subject matter expertise in an oversight or development role for the design, analysis, and construction of High-Speed Rail Infrastructure, including but not limited to at-grade, embankments, earth retaining structures, bridges, tunnels and underground structures. The Engineering Manager responsibilities include evaluation and optimization of design concepts and requirements to optimize performance and reduce Program construction cost. The incumbent will support the Authority's Chief Engineer, Director of Engineering, Director of Structures, Authority management, Authority Consultants, Regional Directors, and Authority staff, as needed and related to engineering design, analysis, and construction of High-Speed Rail infrastructure. At the direction of the Director of Structures, the Engineering Manager will represent the Authority in internal and/or external technical groups. Assist in development of seismic design criteria for bridges and tunnels crossing seismic faults. Work with the RDP Seismic Specialist Team (SST) in the oversight of the production of ground motions which will become part of the procurement documents.

Possession of a valid certificate of registration as a Civil Engineer issued by the California State Board of Registration for Professional Engineers is required.

TYPICAL DUTIES:

Percentage Job Description
Essential (E)/Marginal (M)

40% (E)	Conduct expert level parametric and sensitivity analyses and optimizations related to High-Speed Rail infrastructure design requirements, performance requirements, and cost reduction, related but not limited to at-grade, embankments, earth resisting structures, bridges, tunnels, and underground structures, to provide guidance in development of Design Criteria Manual, Directive Drawings, and Construction requirements. Technical expert analysis and value engineering that includes infrastructure structural analysis, development and implementation of analytical and imperial model for transition zones, Rayleigh wave, linear and/or non-linear seismic analysis, seismic hazard, seismic fault crossing, soil liquefaction and lateral spreading, track-structure Interaction, rail serviceability and safety, passenger safety and comfort, seismic isolation and response modification factors. Provide specialized technical coordination with operation Early Warning Systems to integrate Structure Seismic Instrumentation program. Member of the Geotechnical Technical Advisory Group to help direct the efforts of the Geotechnical
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Investigation program in the mountain regions of the Tehachapi Mountains, San Gabriel Mountains and Pacheco Pass.

- 20% (E) Provide specialized technical support and advice to Authority's Director of Structures as related to High-Speed Rail Infrastructure design concepts, analysis, design and performance requirements; operation and safety; risks and mitigations; constructability, value engineering, and cost containment; and related program policies including but not limited to at-grade, embankments, earth retaining structures, bridges, tunnels and underground structures .
- 15% (E) Under the direction of the Director of Structures, provide support and/or technical representation/liaison on behalf of the Authority to internal and external working groups, agencies, organizations, and public. Provide representation to High-Speed Rail working groups, such as Technical Advisory Panel, and Geotechnical Tunnel Advisory Group. Provide representation to external State and Federal agencies, and national and/or international institutions and organizations such as Caltrans, FRA, FHWA, AASHTO, TRB, PEER, CSMIP, USGS, Universities, American Segmental Bridge Institute, California Seismic Advisory Board, Seismic Fault LiDAR Imaging, and private sector contractors, subcontractors, suppliers and their associations.
- 15% (E) Conduct technical reviews of construction contractors' submittals for technical compliance, including Type Selection, 60%, 100% and Ready For Construction deliverables. Assist the Authority in resolving major design and construction related issues for complicated structures. Provide technical expert reviews of change orders and claims.
- 10% (M) Provide review and value engineering for Regional Consultants engineering concepts and designs for preliminary engineering, for statewide regions to ensure consistency, and compliance with requirements, constructability, efficiency, and cost containment.

SUPERVISION EXERCISED OVER OTHERS:

This position does not supervise but will act as a lead to other engineers and consultants.

KNOWLEDGE AND ABILITIES:

Knowledge of: Various phases of transportation engineering and systems planning; transportation economics and financing; factors which influence the impact of transportation facilities on the environment, the community and the economy; principles and techniques of personnel management and supervision; Authority's Equal Employment Opportunity (EEO) and labor relations objectives; a manager's role in safety, EEO and labor relations and the processes available to meet these program objectives.

Ability to: Administer an engineering and construction program; plan and direct the work of others; judge work quality and performance; prepare technical correspondence and complete, comprehensive

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reports; prepare articles for publication; address an audience effectively; analyze situations accurately and adopt an effective course of action; communicate effectively; effectively contribute to the Authority's safety, EEO and labor relations objectives.

DESIRABLE QUALIFICATIONS:

- Knowledge of structural analysis and design, seismic analysis, rail structure and high-speed rail operational criteria, track-structure interaction, rail safety and serviceability analysis.
- Knowledge of the geotechnical investigation program, seismic fault investigations, various phases of transportation systems planning and engineering work.
- Knowledge of the provisions of the California Code of Regulations, Public Utilities Code, Public Contract Code and Government Code, 49 CFR Part 26 and related regulations, rules and policies pertaining to the preparation and administration of construction and other related engineering contracts.
- Knowledge of and ability to apply engineering judgment in areas of design and construction engineering on transportation projects, value engineering and construction cost containment.
- Expert knowledge of principles of seismic analysis and design, structure performance, soil-structure interaction, design criteria development, and construction provisions.
- The ability to maintain good communication skills and working relationships with Management, other Divisions, Federal and State Agencies, local agencies and private sector contractors, subcontractors and suppliers and their associations.
- Ability to present comprehensive reports and prepare correspondence.

CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS:

Incumbent is responsible for the timely and efficient delivery and completion of projects and services that provide maximum benefits to the traveling public and in accordance with federal, state and local mandates. Consideration of all input and pertinent factors is crucial to reaching conclusions and taking appropriate actions. Failure to meet delivery and budget commitments, as prescribed by federal, state and local agencies, could result in loss of funding and damage to the Authority's credibility. It could further lead to conditions that endanger the traveling public and increase liability against the Authority.

PUBLIC AND INTERNAL CONTACTS:

The incumbent maintains a close working relationship with counterparts at the Authority. The incumbent represents the Authority in meetings and dealings with federal, state, regional and local agencies, elected officials and the public. Meets with civic groups and other interested parties to discuss and resolve controversial construction projects and to coordinate work with the various jurisdictions.

PHYSICAL, MENTAL, AND EMOTIONAL ABILITIES:

Sustained mental activity is needed for problem solving, analysis and reasoning. Must be able to communicate orally and in writing in a clear and concise manner. Must have the ability to develop and maintain cooperative working relationships and respond appropriately to difficult situations.

WORK ENVIRONMENT:

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The duties are typically performed in a climate controlled office working under artificial lighting. The office setting is a mixture of modular workstations and private offices housing professional , technical and clerical staff. At times the incumbent may be exposed to extreme and inclement weather and walking on uneven terrain when on a construction job site. Occasional travel is required.

I have read, and understand the duties listed above and can perform them either with or without reasonable accommodation. (If you believe you may require reasonable accommodation, please discuss this with your hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

Name of Employee: _____

Signature:	Date:
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I have discussed the duties with and provided a copy of this duty statement to the employee named above.

Name of Supervisor _____

Signature:	Date:
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